

In re Patent Application of
ESPOSITO CORCIONE ET AL.
Serial No. 10/696,723
Filing Date: October 29, 2003

In the Specification:

Please replace paragraph [0015] on page 4 with the following rewritten paragraph:

The efficiency and the polluting emissions are optimized through an adequate control of the ~~radiant flux~~ power output distribution among the main components. The electric engine has a limited power and it operates also as a generator to recharge the batteries. The batteries have a reduced size and weight since they power a reduced power electric engine. Figure 2 shows in schematic blocks the structure of a parallel-type hybrid propulsion vehicle.

Please replace paragraph [0021] on page 5 with the following rewritten paragraph:

~~The technical problem underlying~~ An object of the present invention is to provide a parallel configuration hybrid system having structural and functional characteristics that overcome the limits of the approaches discussed above by sharing the advantages of both series/parallel configurations but without inheriting the disadvantages thereof.

Please replace paragraph [0033] on page 7 with the following rewritten paragraph:

With reference to the drawings, and particularly to the examples of Figures 3 and 4, a vehicle 10 equipped with a parallel configuration hybrid propulsion system 7 will now be described. The electronic torque control and distribution

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system 11 formed according to the present invention is applied to the vehicle 10. Advantageously, the hybrid configuration of Figure 3 is capable of combining the advantages of the two main types (series and parallel) of hybrid vehicles, as a result of an innovative management of ~~radiant fluxes~~ power output.

Please replace paragraph [0040] on page 9 with the following rewritten paragraph:

The diesel engine 1 delivers, therefore, a constant power, adjusted to a driver demanded average power. The control unit 4 manages the operation as a generator or as a draft gear of the internal combustion engine 1, depending on whether the required mechanical power is lower or higher than the power delivered by the diesel engine 1. The control unit 4 also controls the power ~~fluxes~~ output to be distributed among the main components (electric machine, diesel engine and storage batteries) to optimize the overall energetic efficiency of the whole system.

Please replace paragraph [0041] on page 9 with the following rewritten paragraph:

As mentioned above, the torque control and distribution system 11 is incorporated in the control unit 4. This control system 11 allows the advantages of the two main types of hybrid vehicles, series and parallel, to be combined due to an innovative management of the ~~radiant fluxes~~ power output.

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Please replace paragraph [0048] on page 11 with the following rewritten paragraph:

As is well known by those skilled in the art, the fuzzy controller 12 operates on so-called membership functions associated with the inputs. The fuzzy ~~interference~~ inference rules which can be applied by way of example to the membership functions are as follows: